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ABSTRACT

Five partnership programs between California State University (CSU) campuses and high schools are described. The programs seek to improve high school students' preparation for college, with emphasis on articulation between the content of high school courses and the level of student performance expected in introductory university courses in the disciplines. Participating campuses are located at San Francisco, San Bernardino, Northridge, Los Angeles, and San Diego. All of the high schools are located in predominately urban areas with high concentrations of ethnic minority students. One project, called the "learning bridge program," offers a model for addressing the gaps in high school-college relations in academic, administrative, and personal areas. Another project trains 23 high school mathematics instructors to explore new curricula in math, including materials from music, art, philosophy, and computer science. A writing project focuses on the English Placement Test, while a science project provides support for minority students and for science teachers. Finally, magnet programs seek to accelerate college preparatory learning. Evaluations of each type of project are included, along with conclusions concerning issues such as equality, access, and continuity. (SW)

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Introduction

The enormous amount of public and political attention directed recently toward the problems of the nation's schools is beginning to generate more than merely financial benefits. Increasingly, educators, parents, and business and governmental leaders have recognized the largely artificial nature of educational levels and are taking concrete steps to forge systematic linkages between the K-12 grades and higher education.

One of the most important types of curricular and resource linkages involves what is known as "partnership" activities. Schools establish a cooperative relationship with businesses or with colleges. In the latter instance, a university might pledge to offer certain services to students and teachers in a high school, share facilities, and otherwise assist the school for a period of time. Such bridges between the K-12 and higher education sectors build formal and informal communications networks, provide staff development for teachers, improve the pre-college curriculum, and facilitate the transition of students from high school to college.

Five such partnership programs currently are being conducted by campuses in The California State University in conjunction with selected nearby high schools. All are sponsored and coordinated by the Office of Academic Program Improvement in the Chancellor's Office.

The projects seek to foster a working partnership between faculty on CSU campuses and local high schools for the improvement of

the preparation of high school students for university courses. They intend to encourage expansion or enrichment of high school curricula and to provide opportunities for high school teachers working as equal partners with their university counterparts in selecting objectives, planning a project, and executing the program. Accordingly, the projects emphasize articulation between the content of high school courses and the level of student performance expected in introductory university courses in the disciplines. Faculty teaching introductory courses on the campuses were encouraged to be active participants in the projects.

The partnership projects funded to date represent more than \$300,000 in support from the Academic Program Improvement Fund, with additional in-kind support from the school districts and high schools. The projects are directed by CSU campus faculty members at San Francisco, San Bernardino, Northridge, Los Angeles, and San Diego.

Beyond the general goal of building learning bridges between the high school and university, partnership activities can assume any number of specific forms and approaches. For example, among the five Academic Program Improvement partnership projects, three are concerned directly with improving the high school curriculum, a fourth with increasing the professional development of high school instructors, and another with improving the effectiveness of the high school overall. One focuses exclusively on English, one on science, and one on mathematics; two others attempt to address needs in all of these disciplines as well as the social sciences.

A variety of approaches are represented: workshops for high school instructors; the use of CSU students as tutors in the high schools; formal and informal consultations between high school teachers and university faculty; team teaching; student testing in basic skills; and lecture programs and university field trips for high school students.

All of the participating high schools are located in predominately urban areas with high concentrations of ethnic minority students. Several are also "magnet" schools which are designed to accelerate college preparatory learning.

Yet, formal collaboration is a relatively recent phenomenon of the educational system. In order to fully appreciate and understand the problems, as well as the promise, associated with current partnership efforts, some historical perspective is required.

Background

What has been termed a layer-cake approach to education is probably the norm in the United States. With the exception of the immediate post-Sputnik years, the dominant orientation of higher education toward the high schools has been one of paternalism and neglect. College curricula, admissions and graduation requirements, testing programs, and teacher education programs have been planned and implemented with little or no systematic consultation with the secondary level. Rarely has higher education taken seriously the notion of education is a "seamless web." Rather, colleges and universities typically have set the ground rules on the assumption that the proper role of the schools was to passively accept them. The consequence of this "top-down" planning process is now obvious:

Like lapsed lovers who had more important things to do, high schools and colleges stopped communicating with each other. They complained in each case that their efforts were unappreciated by the other . . . High schools imitated colleges and universities in fragmenting the curriculum and stuffing it full of electives. Left on their own, too many high school students failed to take the courses that would best prepare them to get the most out of college. In its peculiar way, justice prevailed, with institutions of higher education being forced to mount remedial courses for these same students.¹

Historically, college entrance requirements have placed little emphasis on the substantive content, body of knowledge, and specific skills of what high school students should have mastered as the necessary prerequisite to college study. High school grade-point average, class rank, and test scores have tended to count for far more in admissions criteria than the specific courses a student has taken. Until recently, colleges have simply sidestepped the content of education in their admissions decisions. In the wake of public dissatisfaction and even alarm with the quality of the schools, the pendulum clearly has begun to swing toward greater college-school communication, and one that addresses specific skills, courses, and knowledge.

Recent Trends

There are many reasons for the change in mood between schools and colleges. Declining public confidence in education at all levels may have caused some degree of critical self-examination.

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Recent enrollment declines in higher education may have produced a more receptive attitude toward cooperative relationships. Perhaps the "shock treatment of remediation"²—having to offer college courses built around high school level content—hastened the change in mood as much as anything else. No one can be encouraged about the dismal state of academic preparation among entering college students, and everyone understandably resents having to pay double for training that should have been required in earlier years.

The empirical data are overwhelming on documenting the decline in virtually all indicators of academic standards. Evidence on basic skills preparation and test scores, in particular, serve to confirm the judgment of the National Commission on Excellence in Education that a "rising tide of mediocrity" has gripped the nation's educational system. The major consequence of such findings has been a movement away from the "open" curriculum of the last two decades and toward a more restricted curriculum which stresses academic "basics" over elective and vocational courses. Indeed, most signs increasingly point toward a more rigorous and more standardized high school curriculum. At the center of all of the criticism—and all of the plans for renewal—stands the high school teacher, and therein lies the most direct link between the schools and higher education.

Teacher Preparation

Almost everyone agrees that teacher preparation is the single most important factor structuring the relationship between schools and colleges. However, historically, colleges have made little effort to involve the schools in the one function of higher education—teacher education—that affects them (and educational quality, generally) most profoundly. The quality of

precollegiate education is intimately linked to the quality of teacher preparation, and there is abundant evidence that both have deteriorated sharply in the past decade. Academic and professional standards for teachers are among the lowest for any comparable group in higher education, partly as a result of the need to replace the shrinking ranks of those willing to become teachers.

While CSU campuses are raising teacher-education standards, an even more urgent need is improvement of the in-service training of existing teachers. Despite its importance, in-service education has not been a very effective feature of college-school collaboration in California. Most of what passes for staff development is merely formal course work. Informal consultation between college faculty and high school teachers is probably a more effective strategy, but it is also more resource intensive for faculty, teachers and institutions alike. To date, efforts have not been successful to permanently modify faculty funding formula in the CSU to permit faculty to provide noncourse, in-service education to public schools as part of their regular assignments.

However, the state did fund a CSU in-service training pilot program in 1980-81. More than 8,000 public school personnel participated in the programs offered by 60 CSU faculty members; 92 individual schools and 34 school districts were represented. Evidence from the pilot project indicated that it was a very successful example of effective collaboration (i.e., it had substantive curricular impacts).

Recently the California Roundtable on Educational Opportunity has stated bluntly that "colleges and universities bear major responsibility for efforts to improve secondary education."³ The academic senates of the three public segments of higher education in the state have recommended that every student planning to pursue a bachelor's degree take at least four years of English and three years of mathematics in high school. Further, at least one course in each of these subjects should be taken in the senior year, and diagnostic exams in English and mathematics should be administered no later than the junior year. The statement prepared by the academic senates also contains lengthy descriptions of the kinds of skills that students should acquire in each subject and samples of the sort of work they should be able to handle.⁴

In light of all of these developments, both nationally and statewide, the CSU has begun to contribute to the growing need for models of successful partnerships. The following is a brief overview of the five programs sponsored through Academic Program Improvement grants.

Learning Bridges

One project, aptly described as the "learning bridge program," offers a comprehensive model for directly addressing the multiple gaps in high school-college relations—administrative, academic, and personal. The program attempts to narrow the learning gap between what a student has taken in high school and what is expected in college. The general goal is to improve the quality of teaching and learning at both levels by promoting the academic preparation of students for college work. The objectives of the project are to:

1. Improve and develop curriculum through increased articulation, interaction, and collaboration among high school and college faculty.
2. Enhance the professional development of all participating project faculty through weekly consultations, in-service workshops, and guest lecture exchanges.
3. Increase academic achievement loads of students participating in the program.
4. Increase the number of high school students who express an interest in education beyond high school by exposing them to interactions with college students, faculty, classes, and a university campus generally.

The project, centered at San Francisco State University, focuses on sophomore and junior high school students who have demonstrated a high potential for college success. All attend Balboa High School, a large, urban institution with very high proportions of both ethnic minority and educationally disadvantaged students.

As a curriculum development and faculty development project, faculty members from both institutions work together to improve college-preparatory or "honors" courses in English, history, and mathematics. As a student development project, the learning bridge program enrolls selected students in the "honors" sections of English, history, and mathematics. It also provides the students with information and strategies for increasing their motivation, self-esteem, study skills, and familiarity with college demands and career opportunities. Three faculty teams, representing both university and high school instructors, coordinated activities among the three primary dimensions of the project in curriculum, faculty, and student development.

Evaluation

Findings from an evaluation of the first year of the project indicated that progress in curriculum development tended to be slow and uneven among the three disciplinary teams. However, significant changes were made in the English curriculum, largely because textbook restrictions are less pronounced than for history and math. It seemed clear, in any case, that curricular reform would continue to be a very difficult problem, particularly in mathematics.

Despite these problems, there is encouraging evidence that the students in the project are performing well academically in high school. They tend to have fewer absences, complete more homework, and participate in more extra-curricular activities than in previous semesters.

Student development, too, turns out to pose a rather complex set of attitudes and behavior patterns. The project has been only partially successful in increasing student levels of self-confidence, understanding of educational and career opportunities, study and learning skills, and academic motivation. However, there is some evidence that practical, external barriers of a social, economic, or academic nature could be acting as negative influences on their psychological and behavioral orientations concerning college preparation. And, most learning bridge students still have a year or two to overcome the large residue of anxiety and ambivalence about going to college.

Despite these problems, there is encouraging evidence that the students in the project are performing well academically in high school. They tend to have fewer absences, complete more homework, and participate in more extra-curricular activities than in previous semesters. Their grades generally increase, and they seem to experience greater motivation and interest in school work. A "hooked on books" reading program particularly has been well received, and almost all of the students express a great deal of pride in being part of the overall project.

At least one objective of the project was achieved with few reservations. The weekly meetings of the disciplinary teams and the classroom exchanges proved to be very effective means for increasing levels of personal and professional understanding between faculty at the two institutions. In short, both reported gaining a greater understanding and appreciation of the problems, potential and mutual benefits inherent in university-high school articulation.

Mathematics

Maintaining an adequate supply of well-trained high school mathematics teachers has become increasingly difficult in recent years. High-technology fields such as the computer industry have offered higher pay, more opportunity for advancement, and better working conditions than the high schools, and consequently these fields have lured away many potential mathematics teachers. The number of mathematics teachers emerging from teacher training institutions has fallen to disastrously low levels—far below what will be needed to replace normal attrition. Increasingly, experienced and capable people in mathematics are turning away from education in favor of more attractive career options.

Obviously, the shortage of qualified mathematics teachers will be alleviated only when the supply is brought into balance with demand, which in the long run will require the training of large numbers of new teachers. However, since currently there are comparatively few teachers in the final stages of training (the “pipeline”), the first step in addressing the shortage must focus on mathematics teachers already in the classroom.

One Academic Program Improvement project, centered at California State College, San Bernardino, involves twenty-three high school mathematics instructors who are trained to explore new curricula in math, including materials from music, art, philosophy, as well as computer science. The major philosophy of

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this program is to treat the high school mathematics teacher as an “endangered species” who will need special recognition for preservation. The public school districts of San Bernardino, Colton, Rialto, Riverside, Bloomington, and Rim of the World are represented.

A series of workshops were held throughout both years of the project; they were designed to achieve the following objectives:

1. To increase interest in mathematics and mathematics teaching among project participants by enriching their mathematical backgrounds and by presenting some alternatives for dealing with curricular issues.
2. To prepare participants for leadership roles in mathematics education.
3. To increase communication and professional exchanges among mathematics teachers in the schools and districts and to promote interest in professional development among participating teachers.
4. To demonstrate the concern of the CSU with mathematics training in secondary schools and to give CSU faculty involved in the project a better understanding of the needs of teacher training programs, both pre-service and in-service.
5. To give the teachers an enjoyable professional experience that encourages them to remain in mathematics education.

Evaluation

Most of the evidence to date suggests that the teachers indeed are responding to the special recognition and training. They report that the frequency and quality of communication among high school mathematics teachers from different schools and districts in the area have increased as direct results of the workshops. Their enthusiasm for mathematics education and for professional development showed significant improvement. The teachers also reported gaining a better understanding of CSU testing and admissions standards in mathematics.

The high school curriculum has benefited from the project from the standpoint of both students and instructors. In an attempt to make math more interesting, the teachers indicated that they have incorporated more motivational and more discovery approaches to math learning. Although the participants have been slow to adopt a greater theoretical focus in their teaching of math, it is clear that the project has had a significant impact on changing and expanding their modes of teaching, including greater use of computers.

It is too soon to know, in any definitive sense, whether such approaches can be successful in influencing the long-range career plans of mathematics teachers. Yet, preliminary indications

are positive as reflected in the following statement from the project's evaluation report:

When asked about the impact of the workshops on their future professional growth activities, participants reported several areas of potential change including the desire to be active in establishing a future National Council of Teachers of Mathematics chapter. In August, at the beginning of the project, few of the teachers expected to have their career plans affected. Yet in May, at the conclusion of the project, a sizable boost in morale occurred; there was an infusion of spirit and a more positive attitude toward teaching and remaining in the profession.⁵

Writing

High school students interested in attending a university are often unaware of the specific skills which they must possess in order to succeed in postsecondary education. Another project draws the secondary schools and the university into a cooperative endeavor to inform teachers and parents, as well as students, of expectations for writing skills at the college level. For example, knowledge of how high school students measure against statewide norms based on a college-bound population might be both informative and convincing. Presumably, if such information is conveyed to everyone concerned early enough in the students' preparatory years, they will have enough time to overcome any skill deficiencies.

For six years, campuses in The California State University have administered the English Placement Test to incoming students. Intended primarily as a diagnostic test, it measures the extent to which students have achieved reading and writing skills sufficient for entrance into freshman composition courses. When treated as an achievement test and as a statement of college writing skill expectations, the English Placement Test can serve as a valuable curriculum and counseling aid for the high schools.

This project at California State University, Dominguez Hills proposed a special administration of the EPT to all juniors and selected college-bound sophomores in four area high schools, Inglewood, Morningside, Banning, and Lynwood. High school teachers administered the test and later joined university faculty in the holistic scoring of the writing sample at a Saturday reading. Test results were available by the end of the semester.

Comments such as "I need lots of help" and "I need to study more" indicate the sense of realism induced by the test data.

University English faculty convened workshops for high school counselors, English teachers, and curriculum planners on interpreting the test results, including both individual scores and aggregate results by school. High school and university faculty also held meetings with the students' parents to explain the test

and the results. Using school aggregate results, faculty teams and consultants reviewed the high schools' English curricula and made recommendations on teaching strategies and techniques. Finally, counseling of individual college-bound students focused on addressing their deficiencies during their remaining time in high school.

The project also involved some in-service training for the high school English teachers. Specifically, they learned about the EPT, holistic scoring, curriculum modification, and teaching techniques.

Evaluation

Almost all of the students rated the experience as being of benefit in planning their academic careers. Although there was little evidence that the test information changed career plans (e.g., whether to attend college), it did give the students an objective means for assessing their current levels of writing proficiency relative to college expectations. Comments such as "I need lots of help" and "I need to study more" indicate the sense of realism induced by the test data. The project has also been instrumental in increasing levels of awareness, information, and concern about writing skills among parents and teachers. For example, the external evaluation found that:

1. Teachers, administration, parents, and students were all enthusiastic about the information provided through administration of the EPT. They found especially useful the subscore information on reading, sentence construction, logic and organization, and composition.
2. The workshops on teaching strategies and grading methods were well received by teachers. As a result of the project, teachers reported requiring more writing assignments and felt better informed about the CSU English and writing requirements.
3. Turnout by parents far exceeded expectations. Sixty parents attended meetings on one high school campus, 70 on a second, and over 90 on the third.

Science

The problem of broadening the pool of high school students who are highly motivated for and well prepared in careers in mathematics, science, and engineering has received wide national attention in recent years. The relatively underprepared status of minority students in science and mathematics has been of special concern.

One recent project at San Diego State University addresses the need for academic improvement in high school science. Four urban high schools are involved—San Diego, Lincoln, Morse, and Hoover—two of which are magnet schools. The project is attempting to improve high school science courses in chemistry, biology, and physics, and to integrate reading, writing and critical thinking skills across the disciplines. Specifically, the project objectives are:

1. To improve the science achievement of college-bound students in biology, chemistry, and physics in grades 10–12 at four urban high schools;
2. To improve the ability of science teachers to integrate communication skills, reasoning ability, and analytical skills of students in high school science;
3. To improve the basic language and mathematics skills of students in high school science;
4. To improve counseling of students regarding background courses needed in high school to prepare for possible science or technical majors in college;
5. To motivate high school students to consider careers in the sciences and science-related areas;
6. To stimulate and encourage meaningful cooperation and rapport between teachers in high schools and the CSU faculty; and
7. To develop a general model for high school-university cooperation.

Project Activities

The project is organized around five distinct activities: basic skills instruction, in-service education, lecture series, faculty consultation, and student tutoring.

First, before the high school year began, a workshop was held to bring together science teachers, student tutors, and university faculty consultants. The science teachers and student tutors received participant stipends. The workshop provided techniques for integrating communication and critical thinking skills instruction into the high school science education program and, during the year, university faculty and student tutors worked with teachers in applying the techniques.

Second, funds were provided for science teachers to take up to three units at the CSU campus, a University of California campus or other professional workshops offered by the school district or other qualified agency. The teachers were required to submit a request to the project co-directors with a statement justifying

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how the proposed courses of study would contribute to the ability of the teacher to improve scientific achievement, communication, and analytical reasoning skills of students. The teachers had opportunities to take courses and workshops in science, mathematics, computer programming, and secondary education. In addition, the high school science department chairpersons were designated Adjunct Professors in a CSU academic department and were included in the science teacher preparation activities of the department.

Third, internationally recognized researchers from university, government and industry were invited to give five public lectures on their research. All high school students and teachers in the four high schools were invited, and special meetings were held after the lectures to permit students to speak informally with the scientists.

Fourth, a CSU science faculty member is assigned to each high school for two semesters. Faculty work with teachers and students

at the school site for an average of five hours per week during the year. Among the services provided are: (1) classroom lectures, (2) consultation with science teachers about ways to improve scientific literacy, (3) design of classroom laboratory experiences within a 50-minute class period, (4) student counseling, (5) liaison between high school and the university, (6) advice to students on science fair projects, (7) computerization of homework assignments, and (8) supervision of student tutors. The faculty consultants also assist in designing homework assignments and in course development.

Finally, two CSU student tutors are assigned to each school site for an average of twelve hours per week. They assist the science teachers in preparing classroom activities and assist students in learning basic language and mathematics skills. A special effort was made to recruit tutors from ethnic minorities in science, engineering and mathematics. The student tutors received special training in teaching communication skills and are supervised by the faculty consultants. The tutors work directly with students on the completion of homework assignments and assist the teacher in grading.

Evaluation

The project is too new to permit even a preliminary assessment of its effectiveness so far. However, several things about the nature of the project make it inherently interesting and potentially very important. First, it is a comprehensive effort involving instructors and students at both levels. Second, its focus is on minorities and on science education simultaneously, both of which are areas of acute concern in school-college relations. Third, it provides in-service training and assistance for existing science teachers while providing incentives (lecture series, tutoring) to recruit new science teachers. Given such scope, this project offers a conceptual model of partnership activities that is both academically sound and politically sensitive.

Magnet Programs

In recent years, the inadequate preparation of freshman students has become an increasing problem for universities and colleges, both in California and nationwide. SAT scores have dropped, marking a sharp decline in verbal, writing, and math skills; the ability to read analytically, to interpret literature, and to succeed in college level science courses has also declined.

Secondary schools are making independent efforts to improve their programs—by revising curriculum, by returning to more traditional college preparatory courses, and by providing more opportunities for in-service training and summer institutes for teachers. But the fact remains that most colleges are being forced to continually increase their number of remedial or developmental sections in writing, reading, and mathematics.

While many students entering the university technically may meet the minimum academic standards for admittance, as a practical matter, they may not possess the basic skills required for college-level work. Another Academic Program Improvement partnership project at California State University, Northridge is designed to address these problems through a broad-based collaborative effort with predominately minority schools.

The basic assumption is that remedial work should be done in the high schools, thereby reducing or eliminating the need for it in college. This project assists high school magnet programs, both in identifying students in need of remediation and in providing resources and strategies for doing it.

The primary focus of this project, then, is on the magnet programs in three high schools located near the university, Cleveland, San Fernando, and Van Nuys. One of the programs emphasizes writing across the disciplines, a second emphasizes mathematics and science, and the third is concerned primarily with the humanities.

Student testing, curriculum development, team teaching, field trips, and use of CSU students as high school tutors are among the major approaches employed for improving basic skills deficiencies among the target groups. In general, many of the CSU faculty involved in the project teach in the high schools one day per week and all devote additional time with teachers

developing curricula and reviewing class materials. The high school teachers, in turn, assist with freshmen courses in the university and are granted special access to instructional resources on campus.

A major goal of the project is to eliminate the need for college-level remediation among the magnet program students.

The distinguishing features about the students in this project are that they tend to (a) have a strong desire to attend college and (b) require some remedial work in English and mathematics, although many have demonstrated a strong potential for achievement in the sciences.

A major goal of the project is to eliminate the need for college-level remediation among the magnet program students. Administration of the CSU English and Mathematics Placement Tests and of the Entry Level Mathematics Examination provide information for diagnosis, placement, and evaluation of student ability at least two to three years before college entrance. Almost one thousand students are involved in the project and are provided with a wide range of special academic support services to improve their basic skills and to sustain their motivation for college-level work.

Evaluation

Given the wide scope of collaborative activities evident in this project, some of the measurable outcomes associated with it tend to be rather diffuse. However, a number of general patterns can be identified. For example, high school teachers and student tutors seemed particularly impressed with some of the more practical aspects of the project (i.e., course planning, use of audiovisual materials and library resources, team teaching). University faculty often commented on the cognitive and academic dimensions of the project, such as changes in high school curriculum and teaching methodologies, the improved focus on college preparation by high school teachers, and the increased realism in student expectations about college.

Perhaps the most significant achievement of the project lies in the communication linkages established between the university and the high schools. It demonstrates, in a very visible fashion,

that the university "cares" about high school teachers and college-bound students. In a very real sense, the university became a "presence" in the high schools, particularly through campus field trips, the use of college student tutors, and faculty exchanges. These experiences made significant contributions to the motivations of students to attend college, which in turn was reflected in the nature and quality of academic preparation in high school.

In general, an independent evaluation of the project showed that university faculty, high school teachers, and participating students all gave the program high marks for improving the academic and psychological preparation of college-bound students. However, the study also showed that many university services for both high school teachers and students were underutilized, which prompted this conclusion:

The fact that programs were viewed as effective and successful when all available services are not utilized indicates that even greater success is possible when communication is increased and all services are utilized to their full extent.⁶

All of the project participants (university faculty, tutors, coordinators, teachers, and students) agreed that the expertise provided by university personnel was integral to the concept of magnet programs and, indeed, that the potential success of such programs was largely dependent on such collaboration,

Conclusions

Bridging the communication and academic gaps between high schools and colleges takes time, but the projects reviewed show that it is possible if the effort is systematic and sustained. The projects also suggest that there are at least six general prerequisites to a successful partnership program: resources, focus, equality, continuity, access, and reform. Specifically, partnerships seem to work if conscious attention is paid to the following principles:

Resources

Like anything worthwhile, collaboration has a price. In the absence of meaningful professional rewards for both high school teachers and college faculty alike, there will be little incentive to sustain a long-term, cooperative project.

Focus

Cooperative projects must be sharply focused. A recent study of partnership programs stated:

... school college "togetherness" must be something more than an academic love-in. Serious cooperation will occur only if school and college people agree to focus on one or two specific goals and work to keep programs sharply focused. You simply cannot do everything at once.⁷

Equality

College-high school projects must be true partnerships where each side contributes equally in the decision-making process. The temptation of university participants to control the project must be consciously avoided. One author remarks:

Teachers in elementary and secondary school are not primitives waiting for missionaries from the academic world to provide enlightenment. Rather, partnerships work because the agenda is not dictated by the colleges, but developed collaboratively with the schools.⁸

The Academic Program Improvement partnership projects funded to date have been successful largely because high school faculty and administrators have been involved as equal partners with CSU faculty. Specifically, high school teachers were designated as "co-coordinators" of the projects; were accorded the title of

"adjunct faculty" to reflect their affiliation and importance to the university; were provided access to university resources such as the library, audiovisual materials, science laboratories, learning skill centers, and computer science rooms; and were offered university credit, stipends, or honorariums in return for their participation. The provision of both psychic rewards and material incentives for high school teachers is essential to any successful partnership effort.

Continuity

Learning is continuous, and partnership programs should help to dissolve the artificial barriers that separate high schools and colleges for many students, especially the gifted. The Academic Program Improvement projects, for example, provided high school students with opportunities to talk to and work with university faculty and students and to visit libraries, student unions, and advisement centers on campus.

Access

While the current emphasis on upgrading academic standards is well placed, it should not and need not direct attention from the equally important goals of equal access and opportunity. Indeed, any meaningful attempt to improve college participation and graduation rates among ethnic minorities must begin in the junior and senior high schools, if not before.

The Partnership Programs of the University of California and the outreach efforts of the Student Affirmative Action program in The California State University attest to the shared commitment which the schools and universities have made to improving educational opportunities for minority and disadvantaged youth. The nature of the high school populations targeted in these Academic Program Improvement grants reflects a similar concern and commitment.

Reform

Finally, it is important to remember that, in the words of one author, "collaboration is not an automatic virtue."⁹ In many instances, partnerships are begun and continued for their own sake, with little formal evaluation; teachers get some training, students get a chance to accelerate their education, a high school and college share facilities. It is not always clear whether such cooperation is worth the money and effort involved. The mere act of consultation is not an adequate substitute for genuine academic reform. Too often, cooperative ventures get bogged down trying to resolve problems of mechanics and bureaucracy rather than producing specific, substantive changes in the curriculum.

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2. *Ibid.*, p. 2.
3. *Statement of Competencies in English and Mathematics Expected of Entering Freshmen* (Sacramento, CA: California State Department of Education, 1982), p. 2.
4. *Ibid.*
5. Carolyn Ellner and Carol Barnes, *Academic Excellence in High School Mathematics: External Evaluation Report* (Long Beach, CA: California State University Chancellor's Office, 1982), p. 9.
6. Cathy Kenderski and Doris Derelian, *Improving the Preparation of College Bound Students: Project Evaluation* (Long Beach, CA: California State University Chancellor's Office, 1983), p. 2.
7. Maeroff, *Op. Cit.*, p. 4.
8. *Ibid.*, p. 68.
9. *Ibid.*, p. x.

For additional or more detailed information on partnership activities in The California State University, the reader should contact the Office of Academic Program Improvement, Chancellor's Office, The California State University, 400 Golden Shore, Long Beach, California 90802-4275.

ACADEMIC PROGRAM IMPROVEMENT

The division of Academic Program Improvement assists faculty in developing innovative approaches to improve both teaching and student learning through pilot projects, workshops and conferences. Since 1972, when CSU first received these funds, an estimated 150,000 students and 13,000 faculty have directly participated in one of the projects, workshops or conferences sponsored by the program. An even greater number have benefited indirectly as the effects of instructional improvements are felt by subsequent groups of students and as faculty learn from colleagues who have adopted these changes in curricula and teaching methods.

Funds are provided for faculty assigned time, clerical and student assistance, and supplies and materials not otherwise available through normal campus and departmental support. The overwhelming majority of the projects initially supported through the API office continue with support from the campus institutional budget.

Projects are selected for funding by a competitive review process in which each campus is invited to submit proposals on a variety of important topics. Review committees consist of faculty from throughout the CSU system with final decisions made by an Advisory Committee formed of representatives from faculty, administration, and students. Decisions on proposals are made on merit without reference to campus of origin.

For additional information on the API program, or on any of the projects described in this brochure, the reader should contact:

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